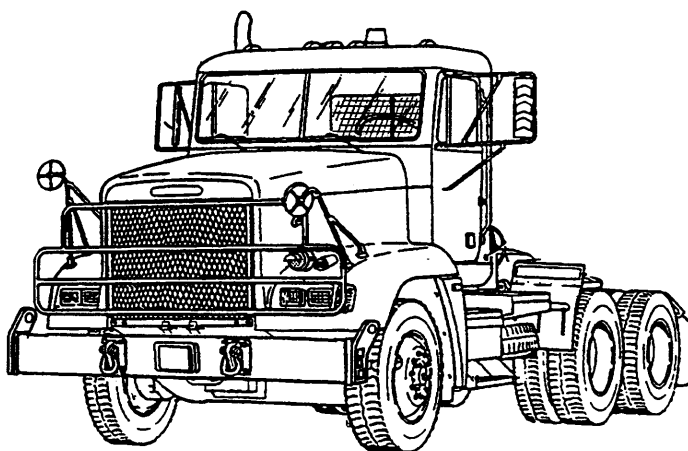


OPERATOR'S MANUAL
FOR
TRUCK, TRACTOR, LINE HAUL:
52,000 GVWR, 6 X 4, M915A4
(NSN 2320-01-458-1207)



Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

15 OCTOBER 2001

OPERATOR'S MANUAL
FOR
TRUCK, TRACTOR, LINE HAUL:
52,000 GVWR, 6 X 4, M915A4
(NSN 2520-01-458-1207)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (*Recommended Changes to Equipment Technical Publications*), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <http://aeps.ria.army.mil>. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or e-mail your letter, DA Form 2028 direct to: AMSTA-LC-CI/TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The e-mail address is: TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

TABLE OF CONTENTS

		Page
CHAPTER 1	INTRODUCTION.....	1-1
Section I.	General Information.....	1-1
Section II.	Equipment Description and Data.....	1-5
Section III.	Principles of Operation	1-13
CHAPTER 2	OPERATING INSTRUCTIONS	2-1
Section I.	Description and Use of Operator's Controls and Indicators	2-1
Section II.	Preventive Maintenance Checks and Services (PMCS).....	2-19

TABLE OF CONTENTS (Con't)

		Page
Section III.	Operation Under Usual Conditions	2-55
Section IV.	Operation Under Unusual Conditions	2-77
CHAPTER 3	OPERATOR MAINTENANCE	3-1
Section I.	Lubrication Instructions	3-1
Section II.	Troubleshooting Procedures	3-3
Section III.	Maintenance Procedures	3-13
APPENDIX A	REFERENCES	A-1
APPENDIX B	COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS	B-1
APPENDIX C	ADDITIONAL AUTHORIZATION LIST	C-1
APPENDIX D	EXPENDABLE AND DURABLE ITEMS LIST	D-1
APPENDIX E	STOWAGE AND DECAL, DATA PLATE, AND STENCIL GUIDE	E-1
APPENDIX F	LUBRICATION INSTRUCTIONS	F-1
	INDEX	Index-1

HOW TO USE THIS MANUAL

This manual is designed to help you operate and maintain the M915A4 truck tractor.

FEATURES OF THIS MANUAL:

- A table of contents is provided at the beginning of this manual. An index of all paragraphs contained within a section is found at the beginning of each section.
- WARNINGS, CAUTIONS, NOTES, subject headings, and other important information are highlighted in BOLD print as a visual aid.

WARNING

A WARNING indicates a hazard which can result in death or serious injury.

CAUTION

A CAUTION is a reminder of safety practices or directs attention to usage practices that may result in damage to equipment.

NOTE

A NOTE is a statement containing information that will make the procedure easier to perform.

- Statements and words of particular importance are printed in CAPITAL LETTERS to create emphasis.
- Instructions are located with illustrations that show the specific task on which the operator is working.
- Dashed leader lines used in illustrations indicate that called out items are not visible (i.e., they are located within the structure). Dashed leader lines in the Lubrication Chart indicate that lubrication is required on BOTH sides of the equipment.
- Technical instructions include metric units in addition to standard units. A metric conversion chart is provided on the inside back cover.
- An alphabetical index is provided at the end of the manual to assist in locating information not readily found in the table of contents.

FOLLOW THESE GUIDELINES WHEN YOU USE THIS MANUAL:

- Read through this manual and become familiar with its contents before attempting to operate or maintain the truck.
- A warning summary is provided at the beginning of this manual and should be read before attempting to operate or maintain the truck.

CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

Paragraph Number	Paragraph Title	Page Number
1-1.	Scope	1-1
1-2.	Maintenance Forms and Procedures	1-1
1-3.	Corrosion Prevention and Control (CPC).....	1-2
1-4.	Destruction of Army Materiel to Prevent Enemy Use.....	1-2
1-5.	Reporting Equipment Improvement Recommendations (EIRs).....	1-2
1-6.	Warranty Information.....	1-2
1-7.	Nomenclature Cross-Reference List	1-3
1-8.	List of Abbreviations	1-3

1-1. SCOPE.

- a. **Type of Manual.** This manual is for use in operating and maintaining the M915A4 truck tractor.
- b. **Equipment Name and Model Number.** Truck, Tractor Line Haul: 52,000 GVWR, 6 X 4, M915A4.
- c. **Purpose of Equipment.** The M915A4 truck tractor is a 6 X 4 prime mover of semitrailers used primarily to transport containers, bulk cargo, and petroleum products over primary and secondary roads under worldwide climatic conditions in a military environment.

1-2. MAINTENANCE FORMS AND PROCEDURES.

Department of the Army forms and procedures used for the equipment will be those prescribed by DA Pam 738-750, *Functional User's Manual for the Army Maintenance Management System (TAMMS)*, as contained in the Maintenance Management Update.

1-3. CORROSION PREVENTION AND CONTROL (CPC).

a. Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

b. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem. If a corrosion problem is identified, it can be reported using SF Form 368 (*Product Quality Deficiency Report*). Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750.

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

For destruction of Army materiel to prevent enemy use, refer to TM 750-244-6.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs).

If your truck needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF Form 368 (*Product Quality Deficiency Report*). Mail it to us at: Commander U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-AC-NML, Rock Island, Illinois 61299-7630. We'll send you a reply.

1-6. WARRANTY INFORMATION.

The vehicles are warranted by Freightliner Corporation in accordance with TB 9-2320-303-15. Warranty starts on the date found in block 23, DA Form 2408-9 in the logbook. Report all defects in material or workmanship to your supervisor, who will take appropriate action through your Unit Maintenance shop.

1-7. NOMENCLATURE CROSS-REFERENCE LIST.

Common Name	Official Nomenclature
Cold Start System	Ether Quick-Start System
Differential Lock/Unlock	Interaxle Lockout
Engine Coolant	Antifreeze, Ethylene Glycol Mixture
Gladhand	Quick Disconnect Coupling
Jake Brake	Engine Brake
Komfort Loc®	Seat Belt Adjustment
No Spin®	Automatic Locking Positive Traction Differential

1-8. LIST OF ABBREVIATIONS.

NOTE

Refer to MIL-STD-12D for standard abbreviations.

Abbreviation	Definition
AAL	Additional Authorization List
ABS	Anti-Lock Brake System
BII	Basic Issue Items
C	Centigrade or Celsius
CID	Cubic Inch Displacement
cm	Centimeter
COEI	Components of End Item
CWS	Collision Warning System
ECU	Electronic Control Unit
F	Fahrenheit
GCWR	Gross Combination Weight Rating
GVWR	Gross Vehicle Weight Rating
kg	Kilogram
km	Kilometer
kPa	Kilopascal
kph	Kilometers per Hour
kW	Kilowatt
l	Liter
lb	Pound
lb-ft	Pound foot
lph	Liters per Hour
m	Meter
mm	Millimeter
N•m	Newton meter
PMCS	Preventive Maintenance Checks and Services
psi	Pounds per Square Inch
rpm	Revolutions per Minute

Section II. EQUIPMENT DESCRIPTION AND DATA

Paragraph Number	Paragraph Title	Page Number
1-9.	Equipment Characteristics, Capabilities, and Features	1-5
1-10.	Location and Description of Major Components	1-6
1-11.	Equipment Data.....	1-9
1-9. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.		

a. **Characteristics.**

(1) The M915A4 is used to transport M871, M872, and M1062 semitrailers on line haul missions.

(2) It has a Gross Vehicle Weight Rating (GVWR) of 52,000 lb (23,608 kg) and is equipped with a two-way oscillating, sliding fifth wheel compatible with a two-inch kingpin. Maximum towed load on kingpin is 30,000 lb (13,620 kg).

b. **Capabilities and Features**

(1) While operating on Class I roads, the fully loaded M915A4 can maintain a speed of 55 mph (88 kph) on level roads and 29 mph (47 kph) while ascending a 3 percent grade. It has a minimum turning diameter, curb-to-curb, of 53 ft 9 in. (16.4 m).

(2) Average cruising ranges at Gross Combination Weight Rating (GCWR) with a full tank of fuel will vary based on conditions (e.g., varying loads, prolonged idle, and climatic conditions). Cruising range is optimally 300 miles (483 km).

(3) The M915A4 is equipped with an instrument panel mounted speedometer and tachometer which register truck ground speed and engine speed.

(4) The M915A4 has the following capabilities and features:

(a) air-activated front and rear non-asbestos cam brakes with a four-channel anti-lock brake system (ABS) to provide significantly improved handling and braking during emergency stops;

(b) operation in temperatures from -25°F (-32°C) to +125°F (+52°C), and to -40°F (-40°C) with arctic kit installed;

(c) start and climb capability of a 20 percent grade at GCWR in both forward and reverse directions;

(d) fording capability up to 20 in. (51 cm) deep for 5 minutes without damage or requiring maintenance before operations can continue;

(e) two-passenger aluminum corrosion-proof cab with a 90 degree tilt-forward hood for service accessibility;

1-9. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES (Con't).

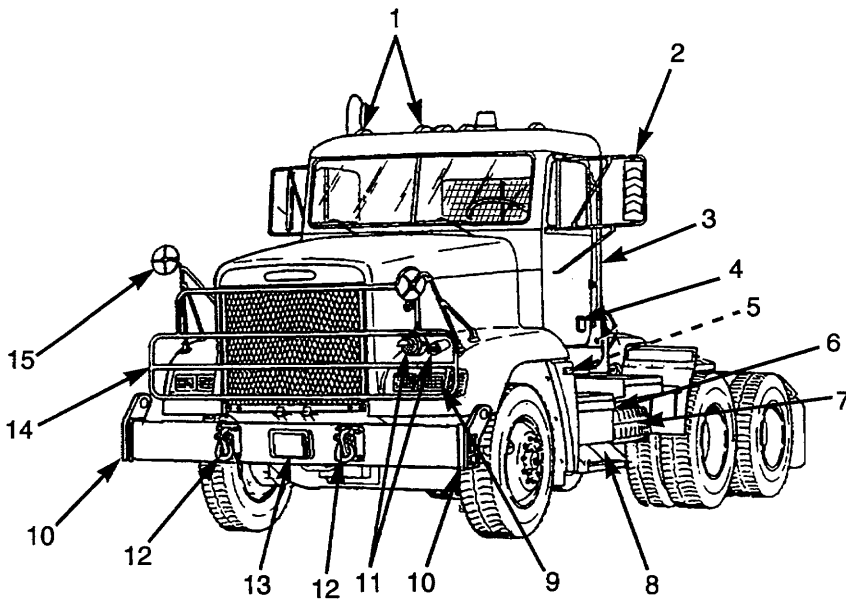
(f) six cylinder, 14 liter, 400 horsepower, in-line turbocharged diesel engine built by Cummins;

(g) Allison HD 4560P four-speed automatic transmission.

(5) When operating in arctic conditions, the M915A4 is equipped with an arctic heater, mounted under the cab, above the battery box. This provides heat for the cab and the engine cooling system. The arctic heater may be operated prior to starting the engine to provide preheating of engine block.

(6) Collision Warning System (CWS) that warns the driver of potentially dangerous driving situations by activating visual and audible alerts.

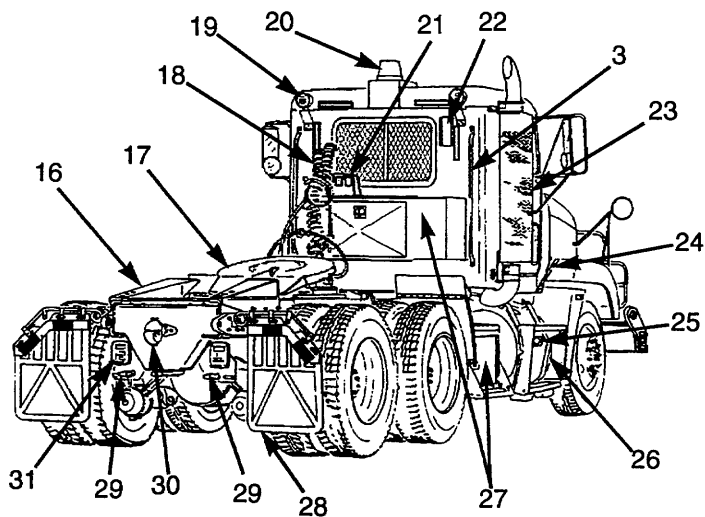
1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.



1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).

Key	Component	Description
1	Marker Clearance Lights	Indicate outline of truck.
2	Side Mirrors (Heated)	Provide driver with a view of sides of truck.
3	Grabhandles	Provide a hand hold for personnel climbing on truck.
4	Utility Power Receptacle	Supplies power for work lights. Located on both sides of truck.
5	Air Horn	Provides an audible alert.
6	Master Battery Switch	Provides battery power to truck.
7	Spare Wheel and Tire	Extra wheel and tire used in case of a flat tire.
8	Battery Box and Steps	Holds vehicle batteries and provides steps to access cab.
9	Front Service Lights	Include headlights and turn signals.
10	Bumper Extensions	Provide adjustable attachment point for slings.
11	Blackout Lights	Used during blackout conditions. Include marker and drive lights.
12	Towing Eyes	Provide attachment points for towing device.
13	CWS Antenna	Forward looking collision warning system antenna.
14	Brush Guard	Protects front of hood and components under hood from damage.
15	Spotting Mirrors	Provide added visibility to sides of truck and semitrailer if towing.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).



Key	Component	Description
3	Grabhandles	Provide a hand hold for personnel climbing on truck.
16	Ramp	Sloped surface serves as an approach to fifth wheel and facilitates coupling of semitrailer.
17	Fifth Wheel	Coupling device for semitrailers with kingpins.
18	Hosetenna	Mounting and stowage location for intervehicular air lines.
19	Utility Lights	Illuminate area in back of cab. There is one light on each side of cab.
20	Beacon Warning Light	Amber rotating light alerts other vehicles of presence of truck.
21	Intervehicular Receptacles Installation	Contains 12-volt commercial, 24-volt military, and trailer ABS receptacles.
22	Antenna Mount	Mount for radio antenna.
23	Exhaust Muffler	Deadens noise of engine exhaust.
24	Hood Latch	Locks hood closed. Located on both sides of hood.

1-10. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).

Key	Component	Description
25	CWS Side Sensor	Side looking collision warning system sensor.
26	Fuel Tank	Holds fuel. Steps mounted to tank provide access to cab.
27	Storage Boxes	Provide stowage area for BII and other items.
28	Mud Flaps	Prevent water and debris from spraying up on passers by or towed semitrailer.
29	Trailer Gladhands	Provide air supply for brakes of trailer.
30	Pintle Hook	Coupling device for trailers with lunettes.
31	Taillights	Contain composite tail, stop, backup, and turn signal lights.

1-11. EQUIPMENT DATA.

Dimensions:

Length (Overall)	275.5 in. (700 cm)
Height (Overall)	119 in. (302 cm)
Width (Overall)	98 in. (249 cm)
Wheelbase	162 in. (411 cm)
Ground Clearance	9 in. (23 cm)
Angle of Approach	27°

Weights:

Curb	18,680 lb (8481 kg)
GVWR	52,000 lb (23,608 kg)
GCWR	105,000 lb (46,670 kg)
Front Axle (Loaded)	12,000 lb (5448 kg)
Rear Axle (Loaded)	40,000 lb (18,160 kg)

Capacities:

Engine Oil (Refill w/Filters)	46 qt (43.5 l)
Cooling System	17.25 gal. (65.3 l)
Fuel Tank	100 gal. (378.5 l)
Power Steering Reservoir	2 qt (1.9 l)
Transmission	51 qt (48 l)
Rear Axle (Forward/Rear)	40/36 pts (19/17 l)